International Journal of Economics and Finance; Vol. 15, No. 1; 2023
ISSN 1916-971X E-ISSN 1916-9728
Published by Canadian Center of Science and Education

The Role of the People's Bank of China and Financial Supervisory Authorities for Greening China's Financial System

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Received: October 17, 2022 Accepted: November 30, 2022 Online Published: December 25, 2022

doi:10.5539/ijef.v15n1p55 URL: https://doi.org/10.5539/ijef.v15n1p55

Abstract

Climate change has become a significant threat to global economies in recent years. The idea that governments, banks, and regulators should work together to combat climate change and promote sustainable financing is gaining traction. The world's central banks and financial regulators must take action on climate change and support sustainable financing. For example, consider the proliferation of regulatory bodies like the Sustainable Banking Network and central banks. The literature review is descriptive and relies on secondary sources. The report covers the first four quarters of 2021 and summarizes the monetary authority's policy operations (goals and achievements). This study includes all scheduled banks and non-banking financial institutions in China in 2021, both public and private, due to their roles in green and sustainable finance. We spoke with four seasoned market analysts and four active and retired government officials and policymakers from central banks and financial supervisory authorities. While China's economic development is undoubtedly threatened by climate change, the country has little choice but to continue to rely on its time-tested approaches to creating riches. The country cannot progress otherwise. Good news: The People's Bank of China is making eco-friendly banking the norm in China's financial sector.

Keywords: sustainable finance, policies, climate credit, green economic, China, disaster

1. Introduction

1.1 Introduce the Problem

The issue of climate change has developed as a topic that is of substantial concern to worldwide financial markets in recent years. This development occurred as a result of the passage of time. The fact that the effects of climate change are starting to become more severe is the source of this topic's relevance. The concept that central banks and financial supervisor's ought to address climate concerns and help facilitate sustainable financing is gaining traction as an acceptable course of action. The idea is that monetary authorities and financial regulators should address climate change concerns and help support sustainable forms of funding (Batten, 2016).

The most convincing evidence of this can be seen in the rise in central banks and financial supervisors. The Sustainable Banking Network has seen a significant increase in membership since its establishment. The global financial system is becoming increasingly complex (Batten, 2016). Not only is this a persuasive piece of evidence that this is the case, but it is also one of the most convincing pieces of evidence. This concept is concretely brought to life by the Sustainable Banking Network, which is an outstanding demonstration of this topic in its own right (SBN). Additionally, China has recently placed a significant emphasis on the design of environmentally friendly financial policies and procedures, which has become an important area of attention there. This change came about relatively recently.

A growing number of monetary and financial authorities in the country have begun to consider how to incorporate climate change and other environmental considerations into their policy frameworks or how to encourage financial institutions to incorporate environmental, social, and governance (ESG) standards into lending and investment, as well as how to adopt environmental and social risk management. This tendency indicates a more significant trend in the global economy, in which monetary and financial authorities are starting to investigate how to include the climate and other environmental factors in their policy frameworks. It indicates a more significant global economic trend (Tanaka, 2016). These debates are organised as a direct response to the growing number of locals who, in addition to other environmental problems, are concerned about the current state of the climate on the planet (Sowerbutts, 2016). People are talking about these things because more and more people are worried about the state of the planet and its ecosystem. Even so, the vast majority of China's central banks and monetary authorities think that climate risk and sustainable finance are new areas of concern in their country.

1.2 Goal and Purpose

- The most significant achievements thus far have been formulating transparent reporting standards for all types of financial organizations and amassing comparable data.
- A preliminary attempt to broaden awareness and disseminate information on the topic associated with sustainable finance.
- The existence of a plan to launch an early-stage debate on sustainable finance to construct voluntary principles or a national policy.

The study results show that the People's Bank of China and monetary supervisors' engagement in the greening of the Chinese financial system is demonstrated by all the efforts of the Chinese central government and provincial authorities. Other countries are considering the issue, while others have already begun the experimental phase. Finally, adopting a green and effective financial system for sustainable development is well along in countries like China, the US, the UK, and France. This present study intends to make an in-depth analysis of the role played by the People's Bank of China and financial supervisors in greening the Chinese financial system, their fight against the consequences of global warming, and the appropriate measures for sustainable development. In the following parts of this research, we will discuss the research methods we used (Section 2) and a review of the literature on green finance in general and China in particular (Section 3). The different steps the PBoC and financial regulators have taken (Section 4) and how the government is working toward an exemplary implementation of a green financial system in China and worldwide (Section 5).

2. Litterature Review

Central banks are seen as pioneers in the financial sector in developing green finance regulations that distribute climate money. It was mentioned concerning the process of generating green finance regulations. Central banks can play a significant part in the development of green finance funding, according to the conclusions of a study that was carried out on 18 different central banks (Amighini, 2022). It can be accomplished by modifying the existing financial structure or encouraging easy access to green loans by other financial institutions by central banks. In addition, the function that central banks play in the ecologically-friendly fundraising process has been the subject of substantial research in various countries. For (Durrani et al., 2020), the initiatives promoting environmentally responsible finance are gaining increasing traction across Asia. Green bond standards, green bond award programs, and sovereign green bonds are a few examples of the types of efforts that fall under this category. This trend is projected to continue as green bonds as a strategy to encourage low-carbon operations across Asia and the rest of the world has been gaining favour fast as a strategy. It is expected that this trend will continue.

From (Dikau et al., 2020), the financial regulatory authorities in the Asian region are focusing on developing social and environmental policies and assisting their financial sector. The purpose is to incorporate economic, environmental, and social standards during financing and investment activities; (Dikau & Volz, 2019); sustainable finance has acquired a particular focus throughout the region. It is one of the reasons why sustainable finance has become such an essential topic of discussion. It is only one of the many reasons sustainable finance has emerged as such an essential topic of conversation in recent years. According to (Milton, 1968) research results, someone once observed that "the primary goals of economic policy are high employment, stable pricing, and quick expansion. There is less agreement that these goals can be accomplished concurrently, and there needs to be more agreement among those who believe that they cannot be accomplished simultaneously on the circumstances under which they can and should be replaced by one another.

According to (Chenghui, 2014), finding that were conducted in the past on China's efforts to promote green finance and sustainable development primarily focused on three areas of China's efforts to promote green finance and sustainable development. On the other hand, the contribution that unofficial counsel made toward accomplishing this objective has, for the most part, been disregarded. Alexander & Fisher, 2019 investigated a component of a larger body of research on the roles that central banks and financial regulators play in the management of environmental hazards and the greening of the financial system to promote the transition to low-carbon development. Within the scope of that larger body of research, the primary concern of this study is a single policy instrument. This article contributes to a larger body of work on the People's Bank of China's financial regulators' role in "greening" the financial system and reducing environmental risks.

Environmental, social, and governance (ESG) and environmental and social risk management (ESRM) practices are considered the most crucial topic in Asia. A growing number of financial and monetary authorities are keeping an eye on what method to integrate climate change and other environmental factors into their regulatory agendas or make it possible for financial institutions to adopt ESG standards (Durrani et al., 2020). They have little experience with monetary authority, and concepts like green finance and climate risk are novel (Dikau & Volz, 2020), In their evaluation of central bank mandates, they examine how well climate-correlated financial risk and extenuation measures align with the current central bank directives and goals. According to the World Economic Forum's (15th Global Risks Report), environmental degradation and climate change are the most significant long-term global threats (Franco, 2020). Social, environmental, and climate threats are on the rise; they pose a severe threat to human life in the future and have the potential to reduce biodiversity for the present generation. Sustainable development is the only option that ensures that present and future generations will have access to the resources they need to survive, including food, water, healthcare facilities, educational opportunities, energy sources, and clean air (Raworth, 2017). For (Stoddart et al., 2011), sustainability is the practical and moral distribution of natural resources to current and future generations. In order to offer enough financial resources to transform a responsible society and an environmentally friendly economy, policy and process design advances compel sustainable finance (Migliorelli, 2021). However, financial regulatory authorities in the Asian region are concentrating on developing social and environmental policies. Moreover, helping their financial sector to incorporate economic, environmental, and social standards during financing and investment activities, scholars like (Volz, 2019) pay more attention to the themes of sustainable finance (Durrani et al., 2020).

For many academics and decision-makers, green finance is the best type of funding. The goal of the Green Credit Policy for (IISD, 2015) was to provide inducements for banks to take environmental obedience and evaluate environmental and social (E&S) risk into account when approving loans. Since then, the China Banking Regulatory Commission (CBRC) has been actively advising banks on how to evaluate environmental requirements during the loan evaluation procedure and is also charged through improving Environmental and Social risk administration procedures (Aizawa & Yang, 2010). One of the main reasons why sustainability issues are now at the top of the global financial policy agenda is China's adoption of green financing (Wang, 2018). The author also thinks China has become a crucial supporter of worldwide green finance promotion. The only new item on the G20 finance track agenda that China added was green financing. The Belt and Road Initiative of China's conformity with strict environmental sustainability criteria is a crucial problem for global green financing.

Scholars have also shown how the Chinese government has contributed to the adoption of policies to green the Chinese financial ecosystem since 2012 (Qi & Qi, 2020; Liu et al., 2020; Zhang et al., 2021; Liu & Xiong, 2022; Yang et al., 2020). To lessen environmental harm begun by the activities of "two high-end firms" and to direct financial resources to more environmentally friendly industrial zones, the Chinese government has issued various green finance measures. Lowering pollutant emissions and encouraging the economy's high-quality growth are the policies' objectives (An et al., 2021). China's primary green financial products comprise green bonds, carbon emissions, and green loans (Zhou et al., 2020). The Chinese government chose Zhejiang Province, Yangtze River Delta, as a demonstration site for reform and innovation in green finance in 2017. President Xi Jinping stated during the first China International Import Expo (CIIE) in 2018 that the government "supports the development of the Yangtze River Delta's regional integration and elevates it to a national plan." The State Council announced the Yangtze River Delta Regional Integration Development Plan Outline in 2019. It was proposed that Shanghai, Jiangsu, Zhejiang, and Anhui provinces be included in the "40 + 1" city group (forty prefectures-cities and one municipality directly under the Central Government) and that the Yangtze River Delta be made into a magnificent display zone in China (Xie et al., 2020).

Regarding the role the various sorts of policy instruments can and should play in achieving each of the many distinct goals, there is the least amount of unanimity that can be found. To this day, the overwhelming majority of people think that environmental and social sustainability should be added to Friedman's list of primary goals of economic policy. Despite this widespread agreement, there are still lingering disagreements regarding the policies that should be implemented to achieve these goals, whether or not these policies should be compatible with one another, and who should be in charge of implementing them.

3. Method and Material

3.1 Data Collection Process

This study mainly serves a descriptive purpose and relies on secondary sources. It describes the monetary authority’s adherence to and policy actions (goal and achievement) in financing and sustainable finance during the first four quarters of 2022. Because of their significant roles in green and sustainable finance in China in 2021, all private and public scheduled banks and non-banking financial institutions were chosen for this research (four quarters). The bank and non-banking financial institution reports made public by the People’s Bank of China provided a wealth of secondary data for the analysis. Annual and quarterly reports on financing and environmentally responsible financing in China provide further information (Schotten, 2018). Commercial bank and nonbank financial institution websites are searched for relevant information and resources. Scholars also look to the World Bank and the United Nations Environment Program (UNEP) for guidance and academic journals and major newspapers. This study used publicly available data for our investigation, such as reports from Chinese financial institutions provided by the People’s Bank of China. Quarterly and yearly reports in China also monitor financial sustainability and environmental responsibility. The online resources of various financial institutions (both commercial banks and nonbanks) are researched and analysed for relevant information and resources. Many authoritative sources, including academic journals and national dailies, are consulted for their perspectives.

In order to ascertain the part that Central Banks and Financial Supervisory Authorities play in the Governance of Research carried out intensive desk research and analysed the information contained within the papers that were selected specifically for this objective. It was done to provide us with the information necessary to make an educated decision. “In particular, whether or not its restricted access to credit for energy-intensive and polluting industries included relevant factors that directly supported green sectors and restricted access to credit for energy-intensive and polluting industries (Dafermos, 2018). The aim was to ensure that no critical information was missed in “declarations” (Schotten, 2018). If this is the situation in China, efforts must be made to address the issue as quickly as possible. The collected datasets were put through a qualitative study, which used methods like content analysis, grounded theory, and discourse analysis, among others.

This study was carried out after the datasets had been compiled. Before any conclusions could be derived from the findings, a comprehensive data analysis was carried out to identify any underlying patterns or trends that may have been concealed. The project’s first phase included the launch of central bank environmental management, the introduction of finance and marketing activities, the establishment of a climate risk fund, and the launch of phase one of the project (Campiglio, 2021). In the second phase, many steps were put into effects, such as the integration of banks and financial advisory services, specific environmental policies, the design of financial strategies, the creation of central bank branches, and the disclosure and reporting of central banking activities.

The third and final stage consisted of establishing a standardised reporting template for use by financial institutions when documenting the central banking measures, they have undertaken. The potential for adverse economic effects can be directly attributed to physical dangers, which also influence society (Cœuré, 2018). For instance, the world is currently going through a period in which it is experiencing extreme weather occurrences such as flooding, droughts, and storms as a direct result of climate change. If they disrupt global supply networks or inflict property damage to businesses, natural disasters have the potential to have a domino effect on the global financial system. One of these two things must occur for this to be possible.

3.2 Interview Process

Four market experts and four current and former officials and policymakers from central banks and financial supervisory authorities took part in our interviews. Both were held in strict confidence and lacked a predetermined format (Schotten, 2018). These people, working together, gave us information that was quite helpful. We had these conversations to determine if what we had found was true and if what we thought we knew about what we had found was accurate.

3.3 Study Survey Process

The study’s objective was to acquire a more in-depth understanding of the perspectives, significant concerns, and prospects of China’s central banks and monetary authorities regarding climate risk and the transition to low-carbon energy sources. Case studies were used to gather the necessary data for the study (Dikau, 2019). The questions included in the survey were formulated to draw forth the data mentioned earlier. Ten other questions about low-carbon funding were included in a questionnaire distributed to our participants. In order to provide the respondents with an additional perk, the study offered them the opportunity to provide their feedback in the form of free-form by email, call, or qualitative comments.

Decisions to encourage the flow of money towards environmentally friendly firms and activities in a manner that is risk-based, market-oriented, and sustainable in an environmentally friendly manner. Some of our participants have said that they have published guidelines or policies about responsible lending at some point in the past. In these speeches, the governors emphasised that climate change's physical and transitional impacts are likely to have first-order economic effects in China and that environmental and ecological risks represent critical challenges for the banking sector (Campiglio, 2021; Batten, 2016).

3.4 Analytical Framework

These value declines may result from financial damage, economic losses (such as a reduction in GDP or income), or both. Both of these factors played a role. There is also the chance that both of these causes were to blame for the outcome. There is a potential that monetary losses are also a contributing factor. Alternatively, these decreases in value could be the consequence of financial damage, economic losses (such as a reduction in GDP or revenue), or both. Another possibility is that both factors contributed to the decline (McKibbin, 2017). To restate this another way: The output of the disaster model is then used as an input into the financial models to adjust the estimated financial statements of an entity (such as a company), such as assets, liabilities, revenues, costs, and profits/losses. This process is repeated until the estimated financial statements of the entity have been changed (Xiaochuan, 2012; Burdekin, 2008).

After that step, the variables that have been changed are considered in the computation of various financial ratios. These ratios' options are loan-to-value, return-on-equity, asset-liability, and interest coverage. Other ratios may also be calculated. When analysing whether or not a firm can repay loans, offer a return on its shares, and fulfil its interest commitments, these ratios are utilised as a part of the process. This process is repeated several times until all relevant ratios have been computed and worked out (Burdekin, 2008). Until then, this technique is carried out.

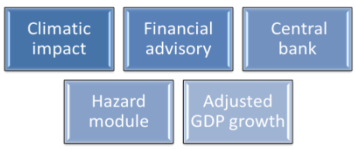

Figure 1. prominent factors

4. Results

4.1 Policy Making and Administrative Structures

The first thing that needs to be done to develop an environmental strategy for the financial institution is to set up a high-level committee to look into the bank's environmental policies, strategies, and projects. It is the first step that needs to be taken in order to formulate an environmental strategy. When developing an environmental strategy for the financial institution, this is the first step that needs to be taken, and it absolutely must be taken (Macaire, 2022). For this approach to work, it is essential to consider the bank's structures and facilities and how it lends money.

Different budget lines need to be established to take into account the growth of the company's internal capabilities, climate risk, and sustainable finance. Those businesses whose operations are especially conscious of the environment should have a plan of action developed for them, along with a few goals they should work toward using that plan. The actions that have been taken must be brought to the general public's attention as quickly as is physically possible. It is essential in order to fulfil the requirements of the situation. Establish "branches" (for example, buildings powered by solar energy) and increase the technology that allows for video conferencing. Create a guidebook for managing environmental hazards that may not only be applied to the project but also serve as a tool for monitoring and assessing the working capital loan.

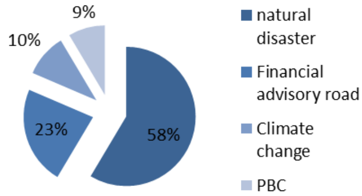

Figure 2. Sales survey

Between the years 2021 and 2022, the central bank established a minimum target of 5% in direct finance total funded loan disbursement; established a “Climate Risk Fund” for the budget with at least 10% allocations; included a Solid Waste Management System, Rainwater Harvesting, and Solar Power Panel in their newly constructed or arranged building infrastructure; and ensured the establishment and activeness of Effluent Treatment Plant (ETP) during financing to the extent possible. In addition, the central bank established minimums at the beginning of each endeavour, which can be traced back to this year. Aside from achieving success in all these endeavours, there was never another purpose anyone had in mind. All of these goals were accomplished successfully throughout the past year, making this accomplishment a very successful one overall. In addition, 2021 marked the beginning of business for the organisation now known as Sustainable Finance United.

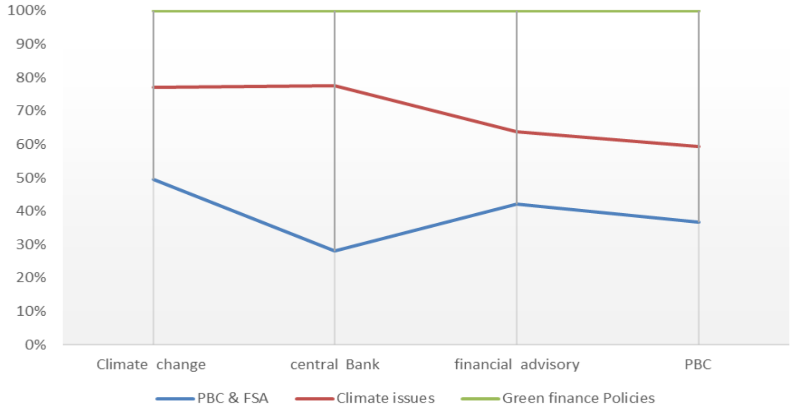

Figure 3. Sustainable finance

It began operations in 2015. The “Target & Achievement” of “Green Finance” and “Sustainable Finance” for banks and financial advisory services was eventually developed throughout the sequence of events that took place over the preceding year. These phrases refer to the “Target & Achievement” of “Green Finance” and “Sustainable Finance.” In the past five years, it has been possible to come up with a definition of “green finance,” a complete list of “green finance” products, a uniform reporting structure for the Quarterly Review Report, and a set of guiding principles for the Environmentally Sustainable Resource Management System (ESRM).

Table 1. Risk analysis

Financial risk ***Environmental risk***	***Types***	***Market Risk***	***Liquidity risk***	***Financial Risk***
Physical Risk	Subcategories	1		2
Extreme weather event	Floods	1		1
	Winter storm		2	
	Cyclone		2	1
	Thunder	1		2
	Other natural disasters		1	
Ecosystem pollution	Soil degradation and pollution		6	

Source: Author’s compilation.

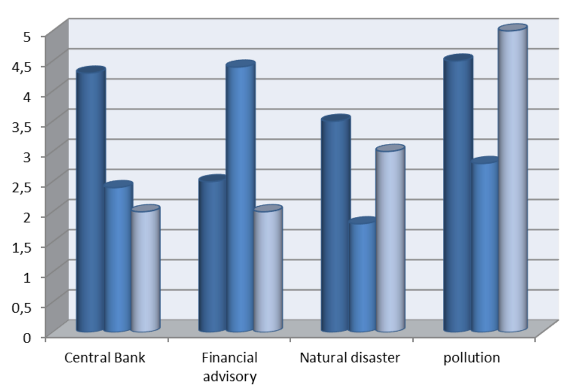

Figure 4. Risk analysis of organizations

4.2 Analysis of Survey

The participants in the survey indicated that their organisations presently possess a strategic investment mandate or approach to increase the total amount of private investment in low-carbon industries at a rate of 22 per cent. The participant's responses to the survey allowed us to determine this information. One of the participants' comments showed that the institution had set a particular goal for itself. As part of the central bank's plan to encourage more private investment in low-carbon businesses, the central bank has suggested that companies that cut their carbon emissions get a tax credit.

However, additional participants claimed that they had already used directed lending methods. They were dispersed throughout the banking sector to raise the amount of money lent for renewable energy (Batten, 2016). In China, to provide assistance in implementing programmes linked to low-carbon financing and green finance. Today, every part of the country has to follow several national laws and rules that are all in effect simultaneously.

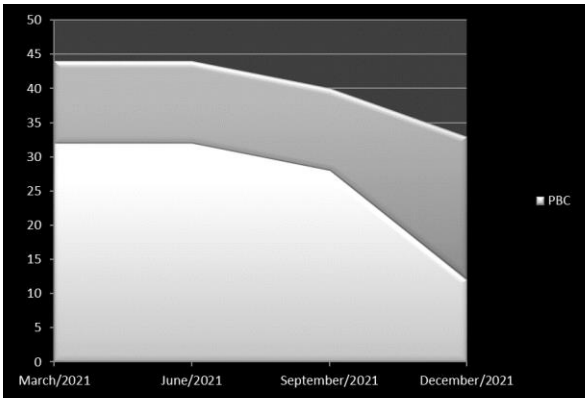

Figure 5. Carbon financing and green finance

Regional organisations have been established to aid in putting sustainable finance into action and provide support. These organisations were founded in order to aid in the process of putting sustainable finance into action. These plans or frameworks for national expansion consider environmental, social, and governance concerns (Dafermos, 2018). They have also known as national development strategies; investments; government guarantee programmes for funding geared toward investments, including renewable energy; and public assistance schemes for investments in renewable energy. A strategy for sustainable growth involves investments in renewable energy sources, green financial road maps or action plans, and a commitment to minimising the negative impact of one's business on the environment. The purpose of the Development Financing Fund is to provide financial assistance to businesses to incentivise those businesses to adopt environmentally friendly business practices. Company strategy, day-to-day operations, and creating a People's Survival Fund to provide monetary assistance for the local population (Dafermos, 2018). Investment in steps to both adapt and mitigate the consequences of climate change, as well as actions to better prepare for the occurrence of natural disasters.

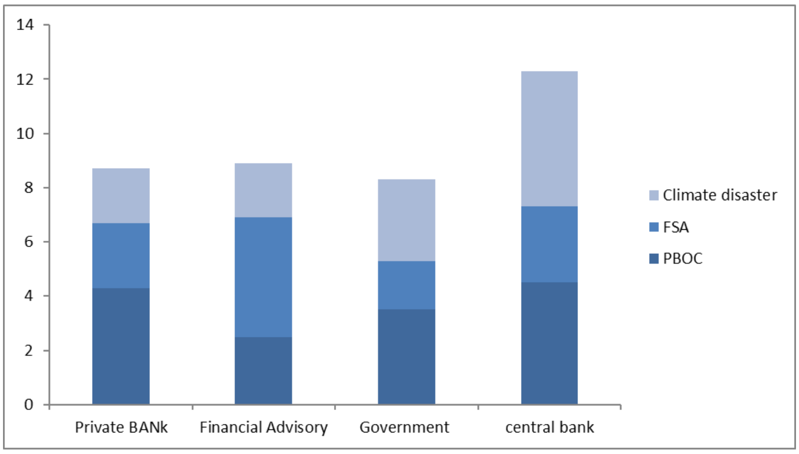

Figure 6. Sustainable growth

5. Discussion & Conclusion

However, even though China is especially vulnerable to the adverse effects of climate change because it is a developing nation, the only way for the country to advance is to continue to rely on the tried-and-true means by which it generates wealth. That is one way for the country to make progress. It is heartening to learn that the People's Bank of China has taken the initiative to work toward making environmentally responsible banking practices the standard across the entire monetary system. This development is cause for celebration. The People's Bank of China has had this as an objective for a considerable amount of time. Financial institutions such as banks and other non-banking entities that give loans to businesses are obligated to conform to various policy decisions related to protecting the environment and society (Campiglio, 2021). These decisions can be found in various places on the internet and in government documents. These financial institutions provide loans to various types of sustainable businesses.

These challenges need to be overcome in a more amenable setting to implementing theory in practice. The state of the capital markets also harms the ability of businesses to secure funding. The Chinese bond market needs to be increased to an adequate degree, and only a limited amount of venture capital is now available. Both of these factors have contributed to this situation. The People's Bank of China is currently making significant efforts to implement the most effective policy practically possible to use the framework and derive the maximum possible benefits from the supply side. It is done so that the framework can be utilised and the maximum possible benefits from the supply side can be derived (McKibbin, 2017).

In addition, they have mandated that all other central banks and financial supervisory authorities are required to fulfil a set of objectives that were developed before their implementation. These objectives are mentioned right at the beginning of the sentence. In early 2022, it will be necessary to submit quarterly reports on sustainable funding that are formatted following the framework the organisation has established.

In addition, the year before, they presented a rating system for long-term viability designed to be applied by any and all authorities responsible for the oversight of financial markets and any and all financial institutions. This rating system was designed to be applied by any authority (McKibbin, 2017). Consequently, for China to effectively navigate the current economic climate, it is necessary to improve both its banking system and non-banking financial institutions, a key focus of its efforts. The establishment of a centralised policy monitoring agency, the development of bond and stock markets, the institutionalisation of green finance and sustainable finance to advance sustainable finance, and the expansion of capital markets, in general, are all necessities for sustainable development to take place.

We can count the following among the various repercussions this has for management and public policy as a result: The initial action taken by the central bank is the formulation of a policy framework for environmentally responsible banking and finance. Then comes a list of recommendations for how to put this structure into action and another list for implementing it. The central bank will be able to decide whether or not to give new instructions to all the banks and the Financial Supervisory Authorities based on the results of this report and the most up-to-date information available right now. This decision will be made possible because of the availability of the most recent information (Schotten, 2018).

The findings and inferences reached as a result of this investigation will serve as the basis for this decision. This research can help them understand the percentage of the goal reached by all banks and the Financial Supervisory Authorities. It can also give them a clear picture of how certain banks fared in sustainable financing. These things are essential for them to know to make informed decisions.

They must clearly understand both of these items at their disposal. The ability of the central bank to coerce participants into contributing to the green fund can be exercised by lowering interest rates or providing participants with a wide variety of other unique incentives. Either way, the central bank's authority to do so exists (Sowerbutts, 2016). Second, decision-makers in government might come up with an original plan for environmentally responsible and long-term economic expansion that considers the state of the world's ecosystems. As a direct result of how to reply to the issue, borrowers will have a significantly better knowledge of what is happening.

Using Excel to carry out statistical analysis and numerical computations makes it much simpler to carry out in-depth research. The research investigated the chance that the central bank will be able to achieve its goals by 2023 as part of its investigation into this topic (Dafermos, 2018). The research only looked at data from the year before because that was the only year for which there was sufficient information to draw on at the time and because it is likely that more time will be required in the future to meet the goal of generating sustainable finance.

Nonetheless, there are some limitations, which can be summarised as follows:

1) All the information used in this research was collected from sources open to the public (https://cn.gtadata.com/).

2) These sources include the People's Bank of China and the Financial Supervisory Authorities.

3) Except for China, no other global country was mentioned.

4) Restriction of some information according to some participants' opinions.

Acknowledgements

We want to express our gratitude and heartfelt gratitude to different anonymous participants for their efforts and contributions towards the completion of this study. We highly appreciate the comments and suggestions of all the team and critics who went through this research.

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